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| 09/783,491   | 02/14/2001  | Shyh-Kwei Chen       | YOR920010132        | 4639             |
| 45773  | 7590        | 12/27/2005           | EXAMINER            |                  |
| WHITHAM, CURTIS & CHRISTOFFERSON, P.C.<br>11491 SUNSET HILLS ROAD, SUITE 340<br>RESTON, VA 20190 |             |                      | HUYNH, THU V        |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 2178                |                  |

DATE MAILED: 12/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/783,491

Applicant(s)

CHEN ET AL.

Examiner

Thu V. Huynh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

1. This action is responsive to communications: amendment filed on 09/28/05 to application filed on 02/14/2001.
2. Claims 1, 5-6, 9 and 17 are amended.
3. Claims 1-17 are pending in the case. Claims 1, 9, and 17 are independent claims.
4. The rejections of claims 1-17 under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter, have been withdrawn as necessitated by the amendment.

### *Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

(b) This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
6. **Claims 1-7 and 9-15 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Hsing et al., US 2002/0023113 A1, priority filed 08/2000 in view of Gajraj, US 2002/0002566 A1, filed 07/16/1998, and Pasetes, Jr. et al., US 5,202,977, patented 1993.**

**Regarding independent claim 1, Hsing teaches the steps of:**

- representing the structural document in electronic format as a hierarchical tree structure, using computing resource (Hsing, page 2, paragraph 22; representing the

XML document as a hierarchy structure wherein each node corresponds to an XML tag);

- receiving, within said computing resources, translation rules and grouping defined with reference to the hierarchical tree structure (Hsing, page 1, paragraph 6; page 3, paragraph 26; page 5, paragraph 42; “When data in the XML document is added, deleted, or modified, the DOM also changes to reflect the modification”);
- creating a dynamic translation table for said hierarchical tree structure (Hsing, abstract and page 2, paragraph 19; page 5, paragraph 42; updating the DOM tree using created event table which holds events corresponding to each mutation to the XML document and decision rules); and
- automatically generating, using said computing resources, a modified hierarchical tree structure representing the structural document in electronic format in accordance with the translation rules (Hsing, page 5, paragraph 48; updating the DOM to conform to the mutations).

Hsing teaches Document Object Model (DOM) provides an interface for accessing and manipulating an XML document (Hsing, page 1, paragraph 5; and page 2, second column, paragraph 22; DOM having an interface with the XML document such that each said XML tag corresponds to a node in the DOM). However, does not explicitly disclose identifying ambiguities within a structural document to include data loops that are not marked as loops; data loop grouping options defined by a user in a static translation table; resolving said ambiguities; and generating a modified hierarchical tree structure in according with the grouping options.

Gajraj teaches the steps of:

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- identifying ambiguities within a structural document in electronic format; receiving translation rules and grouping options defined by a user in a static translation table with reference to the hierarchical tree structure; creating a dynamic translation table to resolve said ambiguities for said hierarchical tree structure (Gajraj, page 3, paragraph 42; page 4, paragraphs 85-89; page 5, paragraphs 103-113, 120; page 6; paragraph 128-133; figures 4, 6, 7, 15 and 17; mapping and resolving ambiguous rules are used to transform hierarchical structure document A to hierarchical structure document B; wherein the mapping and resolving ambiguous rules are defined by the user through GUI. Creating a dynamic mapping table to resolve ambiguities (fig.7, box 370 and fig.17, box 460)).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Gajraj and Hsing to include a friendly user interface for the user, since this would have allowed users define rules besides predefined rules for accessing and manipulating the DOM tree in transformation process.

Pasetes teaches:

- identifying ambiguities within a structural document in electronic format to include data loops that are not marked as loops; representing the structural document as a hierarchical tree structure (Pasetes, fig.9; col.17, line 42 – col.18, line 29; identifying beginning and ending of loops that are not marked as loops);
- receiving translation rules and data loop grouping options defined by a user in a static translation table with reference to the hierarchical tree structure (Pasetes, col.7, lines 64-68; col.15, lines 64 – col.16, lines 15; col.20, lines 3-41);

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- automatically generating a modified hierarchical tree structure representing the structural document in accordance with the translation rules and grouping options (Pasetes, col.20, lines 3-41);

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Pasetes into Hsing and Gajrar to resolve ambiguities of a structural document, such as XML and/or EDI, since this would have resolve confusing when translating a structural document, for not only XML document, but also for an EDI which has data loops that are not marked as loops.

**Regarding claim 2**, which is dependent on claim 1, Hsing teaches wherein the translation rules include rules for grouping elements of the structural document (Hsing, page 4, paragraphs 28 and 29; “grouping together all child nodes and branches”; Pasetes, col.18, lines 20-29).

**Regarding claim 3**, which is dependent on claim 2, Hsing teaches wherein the rules for grouping are represented from the group consisting of: diversification of sub-tree tags, and identity of sub-tree tags (Hsing, page 4, paragraphs 28 and 29; grouping nodes having “ID” value of “2”; Gajraj, page 5; paragraphs 114-120 and figures 8-15; Pasetes, col.17, lines 42-68 and col.18, lines 20-29).

**Regarding claim 4**, which is dependent on claim 3, Hsing teaches wherein the rules for grouping are represented as a two-column table wherein a first column of the table defines a

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plurality of nodes in the hierarchical tree structure, and a second column of the table defines a rule to be applied to grouping each of one of the plurality of nodes (Hsing, fig. 4 and page 5, paragraphs 28 and 29; SORTED EVEN TABLE is a table wherein a first column defines a plurality of nodes in DOM, such as node with different ID's value, and second column defines a rule, such as ADD, DELETE, or MODIFY to be applied to grouping each of plurality nodes).

**Regarding claim 5**, which is dependent on claim 1, Hsing teaches wherein the hierarchical tree structure is Document Object Model, and structural document in electronic format to be translated is in a format selected from the group consisting of: flat file and Extensible Markup Language (Hsing, page 2, paragraph 22; and page 3, paragraph 26).

**Regarding claim 6**, which is dependent on claim 1, Hsing teaches wherein the step of automatically generating, using said computing resources, a modified hierarchical tree structure comprises processing each node of the hierarchical tree structure in accordance with the translation rules (Hsing, page 5, paragraphs 48-49; processing the hierarchical tree structure to delete the node having "ID" value of "2"; Pasetes, col.22, lines 18-27), automatically generating a dynamic table representing an interim translation of hierarchical tree structure and generating the modified hierarchical tree structure from the interim translation (Hsing, abstract and page 2, paragraph 19, updating the DOM tree using created event table which holds events corresponding to each mutation to the XML document; Pasetes, col.22, lines 18-27).

**Regarding claim 7**, which is dependent on claim 1, Hsing does not explicitly disclose wherein the translation rules are generated by the user by means of a graphical user interface that displays to the user various data elements of the structural document represented as nodes in a hierarchical tree structure.

Gajraj teaches user interface provides an intuitive method for generating translation rules (Gajraj, figures 7 and 17; page 5; paragraphs 103-113, 124; page 6; paragraph 128-133).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Gajraj's GUI into Hsing to include a user interface that displays to the user various data elements of a DOM tree, since this would have allowed users define rules besides predefined rules for accessing and manipulating the DOM tree.

**Claims 9-15** are for a computer system performing the method of claims 1-7, respectively and are rejected under the same rationale.

**Claim 17** is for a computer program product performing the method of claim 8, and is rejected under the same rationale.

7. **Claims 8 and 16 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Hsing in view of Gajraj and Pasetes as applied to claim 1 above, and further in view of Carter, US 5,878,419, patented 1999.**

**Regarding claim 8**, which is dependent on claim 1, Hsing and Gajraj teach the limitations of removing ambiguities from a structural document in claim 1 as explained above.



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Hsing does not explicitly disclose wherein the ambiguities to be removed from the structural document include data loops that are not marked as loops.

Carter teaches Electronic Data Interchange (EDI) flat file format includes data loops that are not marked as loops (Carter, col.3, lines 2-8 and 18-29; and col.10, line 5 – col.11, line 9, no position tags to indicate the presence of these loops).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Carter and Hsing and Pasetes to removing ambiguities from a structural document, such as XML and/or EDI flat file, since this would have removed confusing for not only XML document, but also for a flat file which has data loops that are not marked as loops.

**Claim 16** is for a computer system performing the method of claim 8, and is rejected under the same rationale.

### ***Response to Arguments***

8. Applicant's arguments filed on 09/28/05 have been fully considered but they are not persuasive.

Applicants argue that Pasetes “provides the feature of identifying beginning and ending of loops that are not marked as loops” is not correct.

This is not persuasive. Pasetes teaches segments marked that identifying beginning and ending of loops that are not marked as loops in a standard document (Pasetes, fig.9, col.17, line 42 – col.18, line 29) and “[t]he user can refer to and manipulate the contents of the tree ... A tree can have multiple occurrences of loops or segments” (Pasetes, col.20, lines 29-42). Pasetes

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teaches converting EDI data to a format that can be used by applications and converting a file created by an application to EDI format. Data is read from an input document, mapping onto a tree to transform to another document (Pasetes, col.16, lines 18-44). Pasetes teaches “[d]ynamic mapping allows the user to identify the relationship of elements within a segment to fields in an application input document and vice versa” (Pasetes, col.5, lines 10-18). Besides, Gajrar teaches mapping and resolving ambiguous rules are defined by the user through GUI to transform hierarchical structure document A to hierarchical structure B (Gajraj, page 3, paragraph 42; page 4, paragraphs 85-89; page 5, paragraphs 103-113, 120; page 6; paragraph 128-133).

Applicants argue that Hsing’s mapping from database to XML is straightforward line-by-line translation. It does not include the user grouping options.

It is noted that Gajrar and/or Pasetes teaches user groups loops as explained above.

Applicants argue that Gajrar does not generate a hierarchical tree structure but rather use mapping tables; and “Gajraj cannot group together the child nodes and branches as it does not form the tree structure”.

This is not persuasive. Gajrar teaches mapping and resolving ambiguous rules are defined by the user through GUI to transform hierarchical structure document A to hierarchical structure B. The defined rules for mapping references to a hierarchical tree structure to transform an element from hierarchical structure document A to hierarchical structure B as shown in figures 8-14. Gajrar’s teaching perfectly matches the claim language. Besides, it is noted that Hsing teaches generate a hierarchical tree structure. The combination of Hsing and

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Gajrar or/and Pasetes teach, “representing the structural document in electronic format as a hierarchical tree structure” and “receiving translation rules and data grouping options defined by a user in a static translation table with reference to the hierarchical tree structure”.

Applicants argue with respect to claim 3 that Gajraj the tag information of the subject invention is relative to data within the document and Gajraj’s Ids are not nodes or tag.

This is not persuasive, since the limitation of claim 3 does not mention the tag is relative to data within the document as applicants argue. Besides, Gajraj teaches transforming hierarchical structure document A to hierarchical structure B, wherein the documents A and B are SGML documents. It is clearly that elements/attributes in the documents A and B must be tag elements/attributes.

Applicants argue with respect to claim 4-7 that “Hsing, Gajraj, and/or Pasetes does not discuss the use of an intermediate tree which assigns tags for the translation and then removes the tags for the final tree structure”.

Hsing teaches updating DOM tree conform to the mutations (Hsing, [0019], [0048]). Pasetes teaches interim tree structure which is used to transform a structure document (Pasetes, col.22, lines 18-27).

### ***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu V Huynh whose telephone number is (571) 273-4126. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen S Hong can be reached on (571) 273-4124. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TVH  
December 21, 2005

*William L. Bashore*  
**WILLIAM BASHORE**  
**PRIMARY EXAMINER**  
*12/22/2005*